AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A method of improving the planarity of a support plate of a susceptor for use during deposition of a film of material onto a substrate comprising ~~the steps of~~:

reducing pressure in a hollow core of a shaft to a first pressure ~~level~~ below atmospheric pressure; and

reducing a pressure in the deposition chamber to a second pressure ~~level~~ required for the deposition of the film of material onto the substrate;

wherein the first pressure in the hollow core of the shaft acts upon a lower surface of the support plate connected to the shaft and interfacing with the hollow core of the shaft and the second pressure in the deposition chamber acts upon an upper surface of the support plate ~~adapted to support the substrate~~ thereby improving planarity.

Claim 2 (currently amended): The method of claim 1, wherein reducing the pressure in the hollow core of the shaft comprises ~~the steps of~~:

sealing the hollow core of the shaft from atmospheric pressure; and

applying a source of negative pressure to the hollow core of the shaft thereby reducing the second pressure in the hollow core.

Claim 3 (currently amended): The method of claim 2, wherein the hollow core is sealed by a shaft vacuum connector housing~~, wherein the shaft vacuum connector housing is~~ adapted to connect with the source of the negative pressure.

Claim 4 (original): The method of claim 3, wherein the shaft vacuum connector housing comprises a fitting adapted to be connected to the source of negative pressure, the negative pressure being applied to the hollow core through the fitting.

Claim 5 (currently amended): The method of claim 1, wherein the upper surface supports the substrate thereon and further comprises a plurality of openings ~~passing~~

therethrough ~~and adapted to affix the substrate to the upper surface by~~, the method further comprising:

applying a vacuum to the substrate ~~thereto, wherein the~~ through the plurality of openings ~~are fluidly connected with~~ via a vacuum line passing through the hollow core of the shaft and fluidly connecting with the plurality of openings to affix the substrate to the upper surface.

Claim 6 (currently amended): The method of claim 5, wherein ~~the~~ a negative pressure generated within the vacuum line ~~connected to the plurality of openings has a negative pressure generated therein and~~ is controlled independently from ~~the~~ a negative pressure generated within ~~the~~ a hollow core of the shaft.

Claim 7 (currently amended): The method of claim 1, wherein the second pressure inside the deposition chamber ~~pressure~~ is ~~from~~ about 0.5 Torr to about 6 Torr.

Claim 8 (currently amended): The method of claim 1, wherein the first pressure inside the hollow core of the shaft is ~~reduced~~ below about 200 Torr.

Claim 9 (currently amended): The method of claim 8, wherein the first pressure inside the hollow core of the shaft is ~~reduced to~~ about 0.5 Torr to about 200 Torr.

Claim 10 (currently amended): The method of claim 9, wherein the first pressure inside the hollow core of the shaft is ~~brought to a value~~ about equal to the second pressure inside the deposition chamber ~~pressure~~.

Claim 11 (currently amended): A method of improving the planarity of a support plate of a susceptor for use during deposition of a film of material onto a substrate comprising ~~the steps of~~:

~~reducing a pressure in the deposition chamber to about 0.5 Torr to about 200 Torr;~~

sealing a hollow core of a shaft from atmospheric pressure with a shaft vacuum connector housing, wherein the shaft vacuum connector housing comprises a fitting adapted to connect to a source of negative pressure;

applying the source of negative pressure to the hollow core of the shaft through the fitting; ~~and~~

reducing pressure in the hollow core of the shaft through the fitting ~~from~~ to a first pressure of about 0.5 to about 200 Torr; and

reducing pressure in the deposition chamber to a second pressure of about 0.5 Torr to about 200 Torr;

wherein the first pressure in the hollow core of the shaft acts upon a lower surface of the support plate connected to the shaft and interfacing with the hollow core of the shaft and the second pressure in the deposition chamber acts upon an upper surface of the support plate ~~adapted to support the substrate~~ thereby improving planarity.

12 (currently amended): The method of claim 11, wherein the upper surface supports the substrate thereon and further comprises a plurality of openings ~~passing~~ therethrough ~~and adapted to affix the substrate to the upper surface by~~, the method further comprising:

applying a vacuum to the substrate ~~thereto, wherein the~~ through the plurality of openings ~~are fluidly connected with~~ via a vacuum line passing through the hollow core of the shaft and fluidly connecting with the plurality of openings to affix the substrate to the upper surface.

13 (currently amended): The method of claim 12, wherein ~~the~~ a negative pressure generated within the vacuum line ~~connected to the plurality of openings has a negative pressure generated therein and~~ is controlled independently from ~~the~~ a negative pressure generated within the hollow core of the shaft.

14 (currently amended): The method of claim 11, wherein the first pressure inside the hollow core of the shaft is ~~brought to a value~~ about equal to the second pressure inside the deposition chamber ~~pressure~~.

Claims 15-24 canceled.

Claim 25 (currently amended): A method of depositing a film of material onto a substrate, comprising ~~the steps of~~:

providing a deposition chamber with a susceptor having a support plate with an upper and a lower surface, said upper surface adapted to support the substrate thereon and said lower surface mounted onto a shaft and interfacing with a hollow core sealed from atmospheric pressure;

~~affixing~~ placing the substrate onto ~~an~~ the upper surface of [[a]] the support plate ~~of the susceptor of claim 15 in a deposition chamber~~;

reducing a pressure in the deposition chamber to a deposition pressure;

connecting a source of negative pressure to the hollow core via an input thereto;

reducing a pressure inside [[a]] the hollow core ~~of a shaft of the susceptor~~ to a negative pressure below atmospheric pressure via said input;

~~wherein~~ applying the negative pressure ~~in the hollow core of the shaft is applied~~ to [[a]] the lower surface of the support plate ~~of the susceptor~~;

flowing at least one precursor gas into the deposition chamber; and

depositing a film onto the substrate wherein the film is generated at least in part from the at least one precursor gas.

Claim 26 (original): The method of claim 25, further comprising the step of:

bringing the temperature inside the deposition chamber to at least 300 °C.

Claim 27 (original): The method of claim 26, wherein the temperature is brought to about 400 °C to about 450 °C.

Claim 28 (currently amended): The method of claim 25, wherein the deposition pressure in the deposition chamber is ~~from~~ about 0.5 Torr to about 6 Torr.

Claim 29 (currently amended): The method of claim 28, wherein the pressure in the hollow core of the shaft is ~~reduced to~~ below about 200 Torr.

Claim 30 (currently amended): The method of claim 29, wherein the pressure in the hollow core of the shaft is ~~brought to a value~~ about equal to the deposition pressure in the deposition chamber.

Claim 31 (original): The method of claim 25, further comprising the steps of:

monitoring the deposition pressure and the pressure inside the hollow core of the shaft; and

adjusting the pressure inside the hollow core of the shaft when it exceeds a value outside a predetermined value range relative to the pressure in the deposition chamber.

Claim 32 (original): The method of claim 25, further comprising the steps of:

monitoring the planarity of a surface of the substrate onto which the film is to be deposited; and

adjusting the pressure inside the hollow core of the shaft when the surface of the substrate deforms by more than a predetermined acceptable amount from perfectly planar thereby bringing the susceptor and the substrate back within acceptable planarity limits.

Claim 33 (currently amended): A method of depositing a film on a substrate comprising ~~the steps of~~:

providing a deposition chamber with a susceptor having a support plate with an upper and a lower surface, said upper surface adapted to support the substrate thereon

and said lower surface mounted onto a shaft and interfacing with a hollow core sealed from atmospheric pressure;

~~affixing~~ placing the substrate onto ~~an~~ the upper surface of [[a]] the support plate ~~of the susceptor of claim 15 in a deposition chamber~~;

bringing the temperature inside the deposition chamber to at least 300 °C;

reducing a pressure in the deposition chamber to a deposition pressure of about 0.5 Torr to about 6 Torr;

connecting a source of negative pressure to the hollow core via an input thereto;

reducing a pressure inside [[a]] the hollow core ~~of a shaft of the susceptor from~~ to a negative pressure of about 0.5 Torr to about 200 Torr via said input;

~~wherein~~ applying the negative pressure in the hollow core ~~of the shaft is applied~~ to [[a]] the lower surface of the support plate ~~of the susceptor~~;

flowing at least one precursor gas into the deposition chamber;

depositing a film onto the substrate wherein the film is generated at least in part from the at least one precursor gas;

monitoring the deposition pressure and the pressure inside the hollow core of the shaft; and

adjusting the pressure inside the hollow core of the shaft when it exceeds a value outside a predetermined value range relative to the pressure in the deposition chamber during deposition of the film of material onto the substrate.

Claim 34 (original): The method of claim 33, wherein the temperature is brought to about 400 °C to about 450 °C.

Claim 35 (currently amended): The method of claim 33, wherein the negative pressure in the hollow core of the shaft is ~~brought to a value~~ equal to the deposition pressure in the deposition chamber.

Claim 36 (currently amended): A method of depositing a film on a substrate comprising ~~the steps of~~:

providing a deposition chamber with a susceptor having a support plate with an upper and a lower surface, said upper surface adapted to support the substrate thereon and said lower surface mounted onto a shaft and interfacing with a hollow core sealed from atmospheric pressure;

~~affixing~~ placing the substrate onto ~~an~~ the upper surface of [[a]] the support plate ~~of the susceptor of claim 15 in a deposition chamber~~;

bringing the temperature inside the deposition chamber to at least 300 °C;

reducing a pressure in the deposition chamber to a deposition pressure of about 0.5 Torr to about 6 Torr;

connecting a source of negative pressure to the hollow core via an input thereto;

reducing a pressure inside [[a]] the hollow core ~~of a shaft of the susceptor from~~ to a negative pressure of about 0.5 Torr to about 200 Torr via said input;

~~wherein~~ applying the pressure in the hollow core ~~of the shaft is applied~~ to [[a]] the lower surface of the support plate ~~of the susceptor~~;

flowing at least one precursor gas into the deposition chamber;

depositing a film onto the substrate wherein the film is generated at least in part from the at least one precursor gas;

monitoring the planarity of a surface of the substrate onto which the film is to be deposited; and

adjusting the pressure inside the hollow core of the shaft when the surface of the substrate deforms by more than a predetermined acceptable amount from perfectly planar thereby bringing the susceptor and the substrate back within acceptable planarity limits during deposition of the film of material onto the substrate.

Claim 37 (original): The method of claim 36, wherein the temperature is brought to about 400 °C to about 450 °C.

Claim 38 (currently amended): The method of claim 33, wherein the negative pressure in the hollow core of the shaft is ~~brought to a value~~ equal to the deposition pressure in the deposition chamber.

Claim 39 (new): The method of claim 25, wherein the upper surface supports the substrate thereon and further comprises a plurality of openings therethrough, the method further comprising:

applying a vacuum to the substrate through the plurality of openings via a vacuum line passing through the hollow core of the shaft and fluidly connecting with the plurality of openings to affix the substrate to the upper surface.

Claim 40 (new): The method of claim 39, wherein a negative pressure generated within the vacuum line is controlled independently from a negative pressure generated within the hollow core of the shaft.

Claim 41 (new): The method of claim 39, wherein the negative pressure in the vacuum line is generated from a source independent of a source of a negative pressure generated within the hollow core of the shaft.

Claim 42 (new): The method of claim 25, wherein the hollow core is sealed from atmospheric pressure by a shaft vacuum connector housing.

Claim 43 (new): The method of claim 42, wherein the shaft vacuum connector housing comprises an input to a source of negative pressure.

Claim 44 (new): The method of claim 33, wherein the upper surface supports the substrate thereon and further comprises a plurality of openings therethrough, the method further comprising:

applying a vacuum to the substrate through the plurality of openings via a vacuum line passing through the hollow core of the shaft and fluidly connecting with the plurality of openings to affix the substrate to the upper surface.

Claim 45 (new): The method of claim 44, wherein a negative pressure generated within the vacuum line is controlled independently from a negative pressure generated within the hollow core of the shaft.

Claim 46 (new): The method of claim 44, wherein the negative pressure in the vacuum line is generated from a source independent of a source of a negative pressure generated within the hollow core of the shaft.

Claim 47 (new): The method of claim 33, wherein the hollow core is sealed from atmospheric pressure by a shaft vacuum connector housing.

Claim 48 (new): The method of claim 47, wherein the shaft vacuum connector housing comprises an input to a source of negative pressure.

Claim 49 (new): The method of claim 36, wherein the upper surface supports the substrate thereon and further comprises a plurality of openings therethrough, the method further comprising:

applying a vacuum to the substrate through the plurality of openings via a vacuum line passing through the hollow core of the shaft and fluidly connecting with the plurality of openings to affix the substrate to the upper surface.

Claim 50 (new): The method of claim 49, wherein a negative pressure generated within the vacuum line is controlled independently from a negative pressure generated within the hollow core of the shaft.

Claim 51 (new): The method of claim 49, wherein the negative pressure in the vacuum line is generated from a source independent of a source of a negative pressure generated within the hollow core of the shaft.

Claim 52 (new): The method of claim 36, wherein the hollow core is sealed from atmospheric pressure by a shaft vacuum connector housing.

Claim 53 (new): The method of claim 52, wherein the shaft vacuum connector housing comprises an input to a source of negative pressure.